to reduce 12.8 to 39.0 deaths (PCV13) and 12.4 to 37.3 deaths (PHiD-CV) per 100,000 vaccinated children. The model predicts that PHiD-CV will prevent 93 to 494 additional Myringotomies and 651 to 8,314 additional AOM cases per 100,000 vaccinated children, when compared with PCV13. Medical costs averted are estimated similar for ID and CAP. The model predicts that PHiD-CV will prevent 48 to 116% more AOM associated costs to the health care system over lifetime than PCV13. In the scenarios analyzed, both vaccines are cost-effective but PHiD-CV generates more QALYs gains (range 0.04%–14.5%) and is cost saving (range 1.88–12.54%) compared to PCV13. **CONCLUSIONS:** The model shows both vaccines would significantly reduce the clinical & economic burden of Pneumococcal disease and are cost-effective for Latin American countries. Nevertheless, due to its greater impact on AOM-related cases and costs, PHiD-CV would generate more QALY gains and is cost-saving to the health care system compared to PCV13.

PIN38

AN ECONOMIC EVALUATION OF THE PEDIATRIC VACCINATION SCHEDULE IN THE UNITED STATES

Clements KM[1], Misurski DA[2], Miller J[3], Skornicki ME[1], Hill GJ[1], McGarry L[1]
[1]i3 Innovus, Medford, MA, USA; [2]GlaxoSmithKline, Philadelphia, PA, USA; [3]GlaxoSmithKline Biologicals, King of Prussia, PA, USA

OBJECTIVES: To estimate the cost-effectiveness of the recommended US pediatric vaccination schedule from a public health perspective. **METHODS:** An Excel-based cost-effectiveness calculator was constructed for the current pediatric vaccine schedule including: diphtheria, tetanus, and pertussis (DTaP), measles, mumps, and rubella (MMR), polio, hepatitis A, hepatitis B, haemophilus influenza B (Hib), varicella, pneumococcal, adolescent meningococcal, influenza, human papillomavirus (HPV) and rotavirus vaccines. Estimates of the incremental direct medical costs and quality-adjusted life-years (QALYs) for vaccination versus no vaccination were obtained from published literature. Where estimates were not available, a decision tree was constructed to model QALYs gained per vaccinated child. The tree includes branches for disease incidence pre- and post-vaccine introduction, case-fatality, and permanent, serious sequelae. 2008–2009 vaccination coverage and 2009 prices were used to estimate vaccine costs. Estimates of lifetime costs and QALYs per vaccinated child, discounted at 3% annually, were applied to a US birth cohort, assuming direct effects only. Costs are expressed in 2009 US$. Incremental costs and QALYs for individual vaccines and the whole schedule were evaluated. The model assessed schedule completion with single disease vaccines as well as completion with two different pentavalent combination vaccines (DTaP, polio, Hib or DTap, polio, hepatitis B) plus single disease vaccines. **RESULTS:** Regardless of how the current pediatric vaccine schedule is completed, annual estimated cost savings range between $13.8 billion to $14.3 billion. DTaP, MMR, polio, Hib and HPV are cost-saving, as are both pentavalent vaccines. Other single-disease vaccines add cost but contribute to a total of 1.4M QALYs gained per year. **CONCLUSIONS:** The current US pediatric vaccine schedule is estimated to be cost-saving and to provide substantial benefits in quality-adjusted survival. Use of combination vaccines increases the savings. Neither herd immunity nor indirect costs were considered in the model; their inclusion likely would increase the estimated cost savings.

PIN39

COST-EFFECTIVENESS OF NUCLEIC ACID TEST SCREENING IN BLOOD DONATION FOR HIV IN BRAZIL

Araújo MAM[1], Soares DP[1], Garcia GC[1], Martins ACM[2]
[1]ANVISA, Brasilia, Brazil; [2]ANS, Brasilia, Brazil

OBJECTIVES: To build a Markov Model that is able to assess the cost-effectiveness of adding NAT to the HIV screening strategy at the Brazilian public health system. **METHODS:** A mathematical model was made of the transfusion chain from donors to recipients of blood in Brazil. The annual number of avoided HIV transmissions was estimated with the window-period incidence model. The natural history of the whole blood receptors is described by a Markov model. **RESULTS:** The incremental cost-effectiveness ratio—ICER of using NAT instead of ELISA concurrently to another ELISA in Brazilian public health system is R$666.493,56 per QALY. The Brazilian gross domestic product per capita is R$18.315,50. **CONCLUSIONS:** The Markov Model built is consistent and shows that, despite the narrower window period, at current costs, NAT is not cost-effective for HIV screening of donated blood in Brazil. Given that the NAT kit is already being produced in-house, the price per kit can be adjusted to achieve a better ICER.

PIN40

COST-EFFECTIVENESS OF PNEUMOCOCCAL VACCINATION AMONG INFANTS IN RUSSIA: ECONOMIC EVALUATION OF THE PNEUMOCOCCAL 7-VALENT CONJUGATE VACCINE

Omelyanovsky VV, Krysanov I, Ivakhnenko O
Research Center for Clinical and Economic Evaluation and Pharmacoeconomics, Moscow, Russia

OBJECTIVES: Cost-effectiveness analysis of 4 dose (3 + 1) schedule of the conjugate pneumococcal 7-valent vaccine (PCV-7) in infants in the Russian Federation. **METHODS:** Costs associated with *Streptococcus pneumoniae* infection were calculated in a modeled cohort of children 0–5 years old with and without vaccination with PCV-7. Key parameters in the model included: number of children in the age of 0–5 years in the country; incidence of diseases caused by S. pneumoniae; the data about efficacy of PVC-7. Costs of vaccination, medical care costs and economic losses of a society were taken into account from the societal point of view. Time horizon was 5 years in the model. **RESULTS:** Expected cost of vaccination program is €0.469 million. Implementation of vaccination with PCV-7 will decrease direct medical costs of care for *S. pneumoniae* infection by €0.516 million. Societal economic losses will decrease by €0.975 million. Thus benefit amount of the PCV-7 vaccination program in a cohort of 0–5 years old children will be €1022 million. **CONCLUSIONS:** Vaccination with PCV-7 is an efficient program in Russia.

PIN41

ADAPTATION OF A TRANSMISSION DYNAMIC MODEL FOR THE QUADRIVALENT HPV VACCINE TO GERMANY

Schobert D[1], Schmitter S[2], Remy V[3], Schöffski O[4]
[1]Universität Erlangen-Nürnberg, Nürnberg, Germany; [2]Sanofi Pasteur MSD GmbH, Leimen, Germany; [3]Sanofi Pasteur MSD, Lyon, France; [4]Friedrich-Alexander-Universität Erlangen-Nürnberg, Nuremberg, Germany

OBJECTIVES: The impact of the HPV(6,11,16,18) vaccine to 12-year-old girls has been assessed in Germany by using a static model. However this kind of model cannot consider a change in HPV infection rate over time, as observed with high coverage rates. Further, this model does not adequately reflect the recommendation in Germany to vaccinate 12 to 17-year-old-girls. a transmission dynamic model was developed for the USA to include these features. Our objective was the adaptation of this model to Germany to precise the assessment of HPV-vaccination impact. **METHODS:** In a first step we assessed the transferability of the model structure to Germany. In a second step we checked input parameters for transferability and identified parameters for adaptation. For the identified parameters, we performed a comprehensive literature research, supplemented by expert opinions to determine German-specific values. The model was manually calibrated to fit observed data in Germany. Calibration parameters were number of annual cases of genital warts and cervical cancer as well as deaths due to cervical cancer to reflect the entire time span of occurrence of HPV-related diseases. **RESULTS:** The US model structure is also applicable to the German context. Components of the model that had to be adapted include demographics (e.g. mortality), screening participation, treatment and vaccination strategies, sexual behaviour, health utility and economic input parameters. In case no German-specific data could be found, we used data from the UK and the US. Annual number of incidental genital warts was calibrated easily and fits well with observed data. However, changes in a variety of parameters were necessary for calibration of cervical cancer cases and related deaths. **CONCLUSIONS:** After its successful adaptation, this transmission dynamic model can be used for a far more realistic estimation of the clinical and economic impact of HPV vaccination in the German context.

PIN42

THE COST-EFFECTIVENESS OF 13-VALENT PNEUMOCOCCAL CONJUGATE VACCINE (PCV13) COMPARED WITH 10-VALENT PNEUMOCOCCAL CONJUGATE VACCINE (PCV10) IN TAIWAN

Chang CJ[1], Wu DBS[2], Wu CL[1], Strutton D[3], Hwang S[3], Huang WWH[4], Rubin J[5], Gilmore K[5]
[1]Chang Gung University, Taoyuan, Taiwan; [2]National Yang-Ming University, Taipei, Taiwan; [3]Pfizer Limited, Collegeville, PA, USA; [4]Pfizer Limited, Taipei, Taiwan; [5]i3 Innovus, Medford, MA, USA

BACKGROUND: *Streptococcus pneumonia* causes invasive diseases as meningitis and bacteremia and non-invasive diseases as pneumonia and acute otitis media (AOM), leading to high morbidity and mortality in infants and the elderly worldwide. **OBJECTIVES:** To evaluate the cost-effectiveness of universal infant vaccination with 13-valent pneumococcal conjugate vaccine (PCV13) compared with PCV10 in Taiwan. **METHODS:** A Markov model was developed to evaluate the potential public health and economic impact of PCV13 versus PCV10 when used as routine vaccination of infants in Taiwan with 4 doses at 2, 4, 6, and 12–15 months of age over a 10-year time horizon. We included both direct and potential indirect benefits of the vaccine from societal perspective. Direct effectiveness of PCV13 and PCV10 is estimated from clinical trial data while indirect effectiveness is estimated from U.S. surveillance data. Epidemiology, serotype, medical, and non-medical cost are from Taiwan CDC report, and retrospective Taiwan-population-based insurance database. Other model parameters were captured by published sources, unpublished data, and assumptions made in consultation with clinical experts. Probabilistic sensitivity analyses was performed to test the robustness of model assumptions. **RESULTS:** At vaccination price (PCV13 cost used current PCV7 price of NT$3,200 (US$ 98) and PCV10 NT$2,700 (US$ 83), our model predicts that, compared to PCV10, universal infant PCV13 vaccination would avoid 2,215 cases of IPD, approximately 12,473 and 14,018 cases of hospitalized and non-hospitalized pneumonia, 246,578 cases of AOM; prevent 207 deaths from IPD and 85 deaths from hospitalized pneumonia; resulting in 4,596 life-years saved, and 3,359 QALYs gained. Comparing PCV13 to PCV10 results in NT$ 187,462 (US$ 5,768) per life-year saved and cost of NT$ 253,307 (US$ 7,794) per QALY gained from the societal perspective. **CONCLUSIONS:** Universal pediatric PCV13 vaccination in Taiwan is estimated to reduce the burden of pneumococcal disease and expected to be cost-effective from the societal perspective compared with PCV10.